REMARKS

Applicant has carefully reviewed the Office Action mailed January 16, 2009 and offers the following remarks.

Claims 1-34 remain pending.

Claims 1-5, 7, 8, 11, 14-22, 24, 25, 28, and 31-34 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,788,702 B1 to Garcia-Luna-Aceves et al. (hereinafter "Garcia"). Applicant respectfully traverses. For the Patent Office to prove anticipation, each and every element of the claims must be present in the reference. Furthermore, the elements of the reference must be arranged as claimed. M.P.E.P. § 2131.

Embodiments described in the present application provide a scheduling technique that allows individual nodes in a wireless communication network to independently determine their own communication schedules. In one embodiment, the communication nodes in the wireless communication network are associated with one or more compatible communication nodes through a shared communication medium. This shared medium may be turned into a set of substantially non-contending communication links, wherein the communication links within a group of compatible communication nodes are substantially non-interfering. In one or more of the described embodiments, each node will exchange scheduling information with the various compatible communication nodes, and determine the communication schedule for future communications with those compatible communication nodes. In another embodiment, each of the communication nodes has an independent clock, which is not synchronized with the clocks of other compatible communication nodes or a common reference clock.

Claim 1 is representative and recites a method comprising:

exchanging scheduling information with at least one compatible communication node in a wireless communication network;

determining a communication schedule for communications with the at least one compatible communication node based on the scheduling information; and

communicating with the at least one compatible communication node based on the communication schedule, wherein communication nodes in the wireless communication network independently determine communication schedules with other compatible communication nodes.

Garcia fails to teach each and every limitation of claim 1. In particular, Garcia does not teach "exchanging scheduling information with at least one compatible communication node"

and "determining a communication schedule for communications with the at least one compatible communication node based on the scheduling information." In addition, Garcia does not disclose "wherein communication nodes in the wireless communication network independently determine communication schedules with other compatible communication nodes." The Patent Office alleges that Garcia discloses these limitations of claim 1 at column 6, lines 49-62 and column 7, lines 7-20 (Office Action mailed January 16, 2009, pp. 2-4). Applicant respectfully disagrees.

Garcia discloses that scheduling packets are exchanged among neighboring nodes and that the nodes are able to determine transmission schedules from the information received from the scheduling packets (Garcia, col. 6, lines 49-54). The network in Garcia is a synchronized network in which the exchange of scheduling packets should occur within a first number of slots within each frame of time, preferably in a common communication channel (Garcia, col. 6, lines 55-60). In one embodiment, transmission times and/or channels are scheduled at a node of a computer network according to previously reserved and requested transmission schedules received in packets transmitted by neighboring nodes of the computer network. Such packets are transmitted at the beginning of each frame period within the computer network and transmission times and/or channels are scheduled for periods indicated as being available according to information included in the packets. In one implementation of this scheme, previously reserved transmission schedules have precedence over the requested transmission schedules and conflicts between requested transmission schedules are resolved according to a priority scheme (Garcia, col. 7, lines 7-20).

In contrast, in the claimed invention, the various communication nodes in the wireless access network are configured only to communicate with select compatible communication nodes. Communication links are established between pairs of compatible communication nodes; different communication links may use different modulation, space, time, and/or frequency parameters in order to minimize the potential for one communication link to interfere with other communication links. In this way, the disadvantages of a centralized scheduling scheme are avoided, and there is no need for each of the communication nodes to synchronize to a common time base. Each node will independently determine the communication schedules with its compatible communication nodes.

The network nodes in Garcia are not configured only to communicate with select compatible communication nodes. Garcia is silent as to compatible network nodes; Garcia does not disclose any procedure for determining that nodes are compatible and that scheduling information is exchanged between compatible nodes. Garcia also does not disclose that a communication schedule is determined for communications with compatible nodes based on the scheduling information exchanged between compatible nodes. Thus, Garcia does not teach "exchanging scheduling information with at least one **compatible communication node** in a wireless communication network" and "determining a communication schedule for communications with the at least one **compatible communication node** based on the scheduling information," as recited in claim 1. Since Garcia does not teach each and every limitation of claim 1, claim 1 is thus not anticipated by Garcia.

In addition, Garcia does not teach that the communication nodes in the wireless communication network independently determine communication schedules with other compatible communication nodes, as recited in claim 1. The nodes in Garcia do not **independently** determine communication schedules. This can be seen from the fact that the network in Garcia is a synchronized network in which the exchange of scheduling packets should occur within a first number of slots within each frame of time, preferably in a common communication channel. Since Garcia is a synchronized network, there must be a common clock and the exchange of scheduling packets is based on a first number of slots within each frame of time as determined by the common clock. The nodes in Garcia thus do not **independently** determine communication schedules.

Moreover, in the embodiment of Garcia disclosed at column 7, lines 7-20, scheduling is done according to previously reserved and requested transmission schedules received in packets transmitted by neighboring nodes of the computer network. The previously reserved transmission schedules have precedence over the requested transmission schedules and conflicts between requested transmission schedules are resolved according to a priority scheme (Garcia, col. 7, lines 7-20). Since the scheduling is done according to previously reserved transmission schedules, which have precedence over requested transmission schedules, as resolved by a priority scheme, the nodes in Garcia do not independently determine the communication schedule. Instead, in Garcia, the previously reserved schedules and the priority scheme, and not the nodes, determine the communication schedule. Thus, Garcia does not teach "wherein

communication nodes in the wireless communication network **independently** determine communication schedules with other compatible communication nodes," as recited in claim 1. Claim 1 is not anticipated by Garcia for this additional reason.

Claims 2-5, 7, 8, 11, and 14-17 depend from claim 1 and include all of the limitations of claim 1. Claims 2-5, 7, 8, 11, and 14-17 are therefore patentable for at least the same reasons set forth above with respect to claim 1.

Claim 18 is directed to a system and recites limitations similar to the limitations of claim 1. Claim 18 is thus patentable for at least the same reasons set forth above with respect to claim 1.

Claims 19-22, 24, 25, 28, and 31-34 depend from claim 18 and include all of the limitations of claim 18. Claims 19-22, 24, 25, 28, and 31-34 are therefore patentable for at least the same reasons set forth above with respect to claim 18.

Claims 6, 9, 10, 12, 13, 23, 26, 27, 29, and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Garcia in view of U.S. Patent Application Publication No. 2005/0058151 A1 to Yeh (hereinafter "Yeh"). Applicant respectfully traverses. When rejecting a claim under § 103, the Patent Office must either show that the prior art references teach or suggest all limitations of the claim or explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, published in the Federal Register, Vol. 72, No. 195, pages 57526-57535. The gap between the prior art and the claimed invention may not be "so great as to render the [claim] nonobvious to one reasonably skilled in the art." *Dann v. Johnston*, 425 U.S. 219, 230, 189 U.S.P.Q.(BNA) 257, 261 (1976). In this case, the Patent Office has failed to show where each and every limitation of the claims is taught or suggested by the prior art. Further, for those limitations of the claims that are not taught or suggested by the prior art, the Patent Office has failed to explain why those limitations would have been obvious to one of ordinary skill in the art.

Claims 6, 9, 10, 12, and 13 depend from claim 1 and include all of the limitations of claim 1. Claims 23, 26, 27, 29, and 30 depend from claim 18 and include all of the limitations of claim 18. As set forth above, Garcia does not teach each and every limitation of claims 1 and 18.

Yeh does not cure the deficiencies of Garcia in this regard. Thus, claims 6, 9, 10, 12, 13, 23, 26, 27, 29, and 30 are patentable over the combination of Garcia and Yeh.

In addition, with respect to claims 9 and 26, these claims recite the additional limitation of "wherein the communication nodes in the wireless communication network maintain independent clocks, which are not synchronized with one another." As discussed above, and as admitted by the Patent Office (Office Action mailed January 16, 2009, p. 17), Garcia does not teach this limitation. Yeh also does not disclose this limitation. The Patent Office alleges that paragraph 0446 of Yeh teaches this limitation. *Id.* at p. 18. Applicant has reviewed paragraph 0446 of Yeh and finds no teaching of communication nodes maintaining independent clocks, which are not synchronized with one another. Paragraph 0446 of Yeh merely discloses that a transmitter, if it does not hear anything above a certain prohibiting threshold, will transmit a short prohibiting signal at a selected position according to its own clock. Thus, Yeh merely indicates that a transmitter may have its own clock. Yeh does not mention that the nodes maintain independent clocks, which are not synchronized with one another, as recited in claims 9 and 26. Yeh is silent as to synchronization. For these reasons, Yeh does not teach "wherein the communication nodes in the wireless communication network maintain independent clocks, which are not synchronized with one another." Claims 9 and 26 are patentable for this additional reason.

The present application is now in condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact Applicant's representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,
WITHROW & TERRANOVA, P.L.L.C.

By: John R. Witcher, III

John R. Witcher, III
Registration No. 39,877
100 Regency Forest Drive, Suite 160
Cary, NC 27518
Telephone: (919) 238-2300

Date: April 10, 2009
Attorney Docket: 7000-365-1A